

We claim:

1. A method of treating or preventing vascular disease in a vertebrate subject comprising administering to said subject a composition comprising a recombinant vector,
5 wherein the recombinant vector comprises a polynucleotide encoding an anti-inflammatory cytokine, operably linked to expression control elements, under conditions that result in expression of said polynucleotide *in vivo* to provide a therapeutic effect.
2. The method of claim 1, wherein said anti-inflammatory cytokine is one or
10 more cytokines selected from the group consisting of interleukin-10 (IL-10), interleukin-1 receptor antagonist (IL-1ra), interleukin-4 (IL-4), interleukin-13 (IL-13), tumor necrosis factor soluble receptor (TNFsr), alpha-MSH, and transforming growth factor-beta 1 (TGF- β 1).
- 15 3. The method of claim 2, wherein said anti-inflammatory cytokine is IL-10.
4. The method of claim 2, wherein said vertebrate subject is a human and said anti-inflammatory cytokine is human IL-10.
- 20 5. The method of claim 1, wherein said recombinant vector is a recombinant virus.
6. The method of claim 5, wherein said recombinant virus is a recombinant adeno-associated virus virion.
- 25 7. The method of claim 1, wherein said recombinant vector is plasmid DNA.
8. The method of claim 1, wherein said administering is by intramuscular injection.

9. The method of claim 1, wherein said administering is by direct delivery to a vascular conduit of said subject.

5 10. A method of treating or preventing vascular disease in a mammalian subject, comprising intramuscularly administering to said subject a composition comprising a recombinant virus, wherein the recombinant virus comprises a polynucleotide encoding IL-10, operably linked to expression control elements, under conditions that result in expression of said polynucleotide *in vivo* to produce a therapeutic effect.

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11. The method of claim 10, wherein the vascular disease is arteriolosclerosis.

12. The method of claim 10, wherein the vascular disease is atherosclerosis.

15 13. The method of claim 10, wherein the vascular disease is stroke.

14. The method of claim 10, wherein the vascular disease is hypertension.

20 15. The method of claim 10, wherein said mammalian subject is a human and said IL-10 is human IL-10.

16. The method of claim 10, wherein said subject is administered a recombinant virus.

25 17. The method of claim 16, wherein said recombinant virus is a recombinant adeno-associated virion.

18. A method of treating or preventing atherosclerosis in a mammalian subject, comprising intramuscularly administering to said subject a composition comprising a

recombinant adeno-associated virus virion, wherein said virion comprises a polynucleotide encoding IL-10, operably linked to expression control elements, under conditions that result in expression of said polynucleotide *in vivo* to produce a therapeutic effect.

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19. A method of reducing the incidence of stroke in a mammalian subject, comprising intramuscularly administering to said subject a composition comprising a recombinant adeno-associated virus virion, wherein said virion comprises a polynucleotide encoding IL-10, operably linked to expression control elements, under
10 conditions that result in expression of said polynucleotide *in vivo* to produce a therapeutic effect.

20. A method of treating or preventing hypertension in a mammalian subject, comprising intramuscularly administering to said subject a composition comprising a
15 recombinant adeno-associated virus virion, wherein said virion comprises a polynucleotide encoding IL-10, operably linked to expression control elements, under conditions that result in expression of said polynucleotide *in vivo* to produce a therapeutic effect.